

## Kudankulam Nuclear Power Plant and Civil Nuclear Liability

*G Balachandran and Kapil Patil*

*G Balachandran is Consulting Fellow at the Institute for Defence Studies & Analyses (IDSA), New Delhi and Kapil Patil is Research Assistant, Pugwash India.*

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### **Summary**

The Russian President Vladimir Putin was expected to visit India in early November 2012. That visit has now been postponed to late December 2012. This postponement has been largely attributed to some of the unresolved issues in India-Russia relations, which include their differing perceptions over civil nuclear liability for Units III, IV, V and VI at the Kudankulam site in Tamil Nadu. On December 5, 2008, during the official visit of Russian President Dmitry Medvedev to India, an agreement was signed by the two countries on the construction of four additional units at the Kudankulam site and cooperation on developing new sites. This Intergovernmental Agreement was signed by Sergey Kirienko, Head, Rosatom State Corporation and Dr. Anil Kakodkar, Chairman, Atomic Energy Commission of India. In the said agreement, India had granted a liability exemption to Russian suppliers for nuclear damage. The exemption of Russian suppliers has, however, been challenged in the Supreme Court of India through a writ petition filed by a group of civil society activists. Taking cognizance of the writ petition, the Supreme Court has asked the government why such an exemption was granted to the Russian vendors as well as to clarify issues pertaining to civil nuclear liability. Against this backdrop, this Issue Brief examines the issue of civil nuclear liability in India in the context of the Kudankulam nuclear reactors, the rationale for such an exemption to Russia, and the potential negative repercussions on India insisting upon a revision of the India-Russia Intergovernmental Agreement of December 2008.

## Introduction

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## Evolution of India's Nuclear Industry and Nuclear Liability Provisions

The Atomic Energy Commission (AEC), founded in 1948 under the Atomic Energy Act, is the apex body in charge of India's nuclear policy. The Department of Atomic Energy (DAE), created in 1954, was charged with the task of design, construction and operation of nuclear power/research reactors as well as supporting nuclear fuel cycle technologies covering exploration, mining and processing of nuclear minerals, production of heavy water, nuclear fuel fabrication, fuel reprocessing, and nuclear waste management. The DAE set up India's first nuclear reactor – APSARA – which went critical at Trombay on August 4, 1956. It was also the first research reactor in Asia. On July 10, 1964, India's second research reactor CIRUS (40 MW) attained criticality at Trombay. CIRUS was built with assistance from US and Canadian nuclear suppliers.

However, in order to advance its commercial reactor programme, the DAE, in its initial years, sought technological assistance from various nuclear powers such as UK, Canada, USA, etc.

Prior to the formation of the Nuclear Power Corporation of India Ltd. (NPCIL), the design, construction and operation of nuclear power plants were carried out as a departmental activity of the DAE. Accordingly, when in 1962 India signed the nuclear cooperation

agreement with the United States, under which the American firm, General Electric, agreed to supply two 200 MWe reactors to India to be constructed at Tarapur site near Bombay, the agreement was between the Government of India and the Government of the United States. By then the United States already had a well-established Nuclear Liability Law – popularly known as the Price Anderson Act – which was passed by the US Congress in 1957.

General Electric, chosen to build Tarapur, wanted an indemnity protection similar to what it was extended in the United States. As explained by Dr M.R. Srinivasan, who was then a lead member of the Indian team negotiating the Tarapur contract with the Americans:

Initially, it (i.e., General Electric) insisted that there should be legislative protection. On the Indian side, we felt it was premature to pass a law as we were then thinking of building only a small number of nuclear power units to demonstrate the economic feasibility of nuclear power under Indian conditions. We persuaded G.E. that a protection in the contract, which was in any case approved by the Government of India, would be adequate.<sup>1</sup>

Similarly, when India signed an agreement in 1965 with the Atomic Energy of Canada Limited (AECL) for building the first two reactors at Rawatbhatta site in Rajasthan, an indemnity protection was extended to AECL and its suppliers as well.

On the question of whether India was right in extending such an indemnity to suppliers, there is no doubt that without either of these two agreements India would not have been able to develop and become the self-reliant civil nuclear power industrial country that it is today. To quote Dr M.R. Srinivasan, one of the prime architects of the development of the Indian civil nuclear power industry in its formative years, on this issue:

If we had not done so, we would not have been able to import our first two reactors from the U.S., nor the second pair from Canada. There is no doubt whatever that India gained a great deal by building the Tarapur reactors with U.S. collaboration. India learnt early the problems of operating nuclear power units in our grid systems and also in managing a complex nuclear installation with our own engineers and technicians. In the case of cooperation with Canada, India was able to get the basic knowhow of the pressurized heavy water reactors (PHWR). Thereafter, we progressed on our own to design and build 16 PHWRs in seven locations. Now we are building four 700 megawatt PHWRs of our own design. Four more will follow soon and possibly another four will also be built, thus making a total of 12 PHWRs of 700MW each. Therefore, early cooperation with Canada helped us to become a designer and builder of nuclear power plants.<sup>2</sup>

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<sup>1</sup> M.R. Srinivasan, "A Liability for Our Nuclear Plans", *The Hindu*, October 15, 2012.

<sup>2</sup> Ibid.

As India's civilian nuclear programme progressed steadily, the "Power Projects Engineering Division" was set up in 1967 within the DAE for the construction of power reactors indigenously as well as in collaboration with various foreign entities. The Power Projects Engineering Division was subsequently converted into the "Nuclear Power Board" and it became the Nuclear Power Corporation of India Limited (NPCIL)—as a public sector enterprise—on September 17, 1987. The NPCIL granted liability exemption to all its Indian supply contracts in line with the exemption hitherto granted to the American and Canadian suppliers for the construction of various power reactors in India.<sup>3</sup> The NPCIL today relies heavily and exclusively on a variety of local suppliers for building Pressurised Heavy Water Reactors (PHWRs) in India.

## Nuclear Liability Provisions and India-Russia Nuclear Cooperation

During the initial years of its nuclear programme, India had limited nuclear cooperation with the erstwhile Soviet Union. In 1961, India and the USSR signed an agreement for "Scientific and Technical Cooperation in the Field of Peaceful Utilization of Atomic Energy" and in 1968 India signed a protocol with the USSR on the "Mutual Deputation of Scientists and Experts of the Indian Atomic Energy Commission and the USSR State Committee for the Utilization of Atomic Energy". However, these agreements were restricted mainly to the exchange of scholars and visits. The first substantive bilateral nuclear cooperation agreement between India and USSR was signed only after India's Peaceful Nuclear Explosion in May 1974, following which Canada had suspended nuclear cooperation with India. Canada formally ended its nuclear relationship with India in May 1976, after an unsuccessful attempt to persuade India to accept full-scope safeguards on its nuclear programme.<sup>4</sup> After the Canadian withdrawal, when India was desperately looking for international supplies of heavy water, the USSR readily agreed to supply heavy water for

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<sup>3</sup> As per Section 6.9 of NPCIL's GENERAL CONDITIONS OF CONTRACT (FORM NO. GCC/Supply-1/Rev.1):

### **6.9 Limitation of Liability**

6.9.1 Except in cases of criminal negligence or wilful misconduct,

(a) the Contractor shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages and/or any other penalties/recovery etc. specifically provided for in the Contract, to the Purchaser

(b) the aggregate liability of the Contractor to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Purchaser with respect to IPR infringement.

<sup>4</sup> David Martin, "Canadian Nuclear Cooperation with India & Pakistan", available at [http://www.ccnr.org/india\\_pak\\_coop.html](http://www.ccnr.org/india_pak_coop.html).

the Rajasthan Atomic Power Station (RAPS-I&II) through a bilateral agreement signed in September 1976.

In the aftermath of its Peaceful Nuclear Explosion conducted in 1974, India came under a range of sanctions from major international suppliers, which severely impacted its civilian nuclear programme. One major international fallout of India's 1974 nuclear test was the formation of the Nuclear Suppliers Group (NSG), whereby the major nuclear suppliers sought to control the nuclear trade for peaceful purposes in a manner consistent with their nuclear non-proliferation policies.<sup>5</sup>

In fact, a number of countries terminated their ongoing nuclear cooperation agreements with India, including Canada which terminated the 1963 agreement in May 1976, and Brazil which terminated the India-Brazil 1968 Agreement on Co-operation Regarding the Utilization of Atomic Energy for Peaceful Purposes in March 1975. In the face of such opposition from many countries to conduct nuclear commerce with India, the Soviet Union was the only country willing to provide assistance to India's civilian programme. In fact, post-1974, the Soviet Union was the first country to sign an agreement – Agreement between the Government of India and the Government of the Union of Soviet Socialist Republics regarding Peaceful Uses of Atomic Energy, signed in January 1979 – for nuclear cooperation with India.

The next major nuclear commerce agreement that India signed after the 1974 test was also with the Soviet Union; this was on November 20, 1988 for the construction in India of a nuclear power station composed of two pressurized light water reactors, each of 1000 MWe. Although the agreement was formally signed only in November 1988, the two governments had made the arrangement for such a construction much earlier and India had accordingly requested the International Atomic Energy Agency (IAEA) to apply safeguards in connection with the supply of the reactor facilities by the Soviet Union to India and to the nuclear material to be used therein. The Board of Governors of the IAEA acceded to that request on September 14, 1988 and a safeguards agreement<sup>6</sup> was signed with the IAEA on September 27, 1988. However, due to developments in the former Soviet Union, this agreement could not be effected for almost a decade. It was only on June 21, 1998 that the Government of India and the Government of the Russian Federation were able to sign a supplementary agreement to the 1988 agreement.

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<sup>5</sup> Guidelines of the Nuclear Suppliers Group can be viewed on the official website of the group at <http://www.nuclearsuppliersgroup.org/Leng/02-guide.htm>.

<sup>6</sup> INFCIRC/360 dated January 1989, "AGREEMENT OF 27 SEPTEMBER 1988 BETWEEN THE INTERNATIONAL ATOMIC ENERGY AGENCY AND THE GOVERNMENT OF INDIA FOR THE APPLICATION OF SAFEGUARDS IN CONNECTION WITH THE SUPPLY OF A NUCLEAR POWER STATION FROM THE UNION OF SOVIET SOCIALIST REPUBLICS", available at <http://www.iaea.org/Publications/Documents/Infcircs/Others/infirc360.pdf>.

Meanwhile, the NSG, in its 1992 plenary meeting, modified the guidelines for transfers of nuclear-related dual-use equipment, material and technology. The new NSG guidelines required that nuclear supplier states require, as a necessary condition for the transfer of relevant nuclear supplies to non-nuclear weapon states (NNWS), the acceptance of IAEA safeguards on all their current and future nuclear activities (i.e., full-scope safeguards, or comprehensive safeguards).<sup>7</sup> However, the major bone of contention between India and the NSG was the former's unwillingness to accept full-scope safeguards (FSS) on its civilian nuclear programme. India's opposition to FSS was driven fundamentally by its opposition to the Nuclear Non-proliferation Treaty (NPT) which it regarded as discriminatory, and accepting FSS would be tantamount to accepting the control regime of the Treaty itself. In the light of the NSG's guidelines, the major challenge for Russia – being an NSG member – was to implement the 1988 inter-governmental agreement.<sup>8</sup> The NSG vehemently opposed the 1998 supplement to the 1988 agreement and the implementation of the plan to construct two reactors in India as per the agreement. A substantial majority of NSG members contested the legality of the supplementary agreement as a violation of its modified guidelines. The Russian government, however, contended that the implementation of the project did not invoke FSS requirements as it pertained to an agreement which predated April 3, 1992, when the new NSG guidelines entered into force. Thus, despite the vehement opposition from other NSG members, Russia implemented the 1988 agreement and proceeded with construction activities at the Kudankulam site.

### **International Supplies, Civil Nuclear Liability and Kudankulam**

A new issue that has cropped up recently in the public debate on Kudankulam is on the question of nuclear liability in case of an accident at Kudankulam with offsite implications. Although all the contracts relating to the Kudankulam nuclear plants are not in the public domain, it has been reported that the Russian suppliers were given indemnity from any liability arising out of any accident at the Kudankulam plants I and II, and they were given similar assurances in respect of Kudankulam III and IV as well in addition to other plants that may be built with Russian assistance at Kudankulam.

Before discussing the specific Kudankulam case, it is worthwhile recalling some of the international practices in respect of civil nuclear liability. By the time the first Kudankulam contract was signed sometime in 1998, all countries with nuclear power plants, with three notable exceptions – China, India and Russia – had operating in their territory one of three types of nuclear liability laws: their own nuclear liability laws, such as in the USA and Canada, or one of the two international civil liability instruments – the Paris Convention on Third Party Liability in the Field of Nuclear Energy of 1960 established under the auspices

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<sup>7</sup> INFCIRC/254/Rev.2/Part 1\*/, dated October 1995, "Guidelines for the Export of Nuclear Material, Equipment and Technology", available at <http://www.iaea.org/Publications/Documents/Infcircs/Others/inf254r2p1.shtml>.

<sup>8</sup> See "Russia, India Sign Secret Nuclear Energy Accord", *Arms Control Today*, November 2000.

of the Organisation for Economic Co-operation and Development (OECD) or the Vienna Convention on Civil Liability for Nuclear Damage of 1963 established under the auspices of the IAEA. While the OECD treaty is regionally confined, the IAEA treaty is worldwide in its application. Notwithstanding the type of the liability laws, all incorporated two important principles: (i) liability of the operator was absolute, and (ii) the liability was channelled exclusively to the operator.

China began its civil nuclear power programme only in the 1980s. First, a nuclear power plant, with a capacity of 300 Mwe, was self-designed and constructed at Qinshan, Zhejiang Province. Then another project with a capacity of  $2 \times 900$  Mwe, was built at Shenzhen Daya Bay with French-designed and-supplied reactors. In the process of contract negotiation on the Daya Bay nuclear power project, the French put forward the issue of nuclear third party liability arising from nuclear accidents. To clarify this question, the State Council adopted an Official Reply Relating to Nuclear Third Party Liability (Guo Han, 1986, No. 44). The Official Reply, as an administrative regulation, is the legal basis on how to deal with nuclear third party liability issues.

The Official Reply used the pertinent provisions of the international conventions as reference. Basically, the principles of the Official Reply – (i) The Principle of Absolute and Exclusive Liability; (ii) The Principle of Limited Liability; and (iii) Rights of Recourse – were consistent with those of the international conventions. In particular, in respect of the Right of Recourse, the Official Reply stated that: “If nuclear damage is caused by a third party’s *intentional act or omission*, the liable operator only will *have a right of recourse* against that third party.”

The Russians, for their part, engaged in nuclear commerce as a buyer only in the late 1980s when they entered into a nuclear cooperation agreement with Germany. In the absence of a nuclear liability bill in Russia in line with international nuclear liability conventions, the Germans demanded and obtained from the Russians an assurance exempting German suppliers from any liability arising out of any accident at any of the German supplied facilities, in line with the international conventions. The Russian Federation gave an undertaking that it would not institute liability proceedings against Germany or any German supplier in case of a nuclear incident in Russia.<sup>9</sup> This agreement did include a clause stating

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<sup>9</sup> Article 3 of the June 8, 1988 Agreement between the Government of the Russian Federation and the Government of the Federal Republic of Germany on Nuclear Liability in connection with deliveries from the Federal Republic of Germany for Nuclear Installations in the Russian Federation stated:

(1) The Russian Party shall bring no claims against the German Party or against suppliers on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.

(2) The Russian Party shall grant the German Party and suppliers appropriate legal protection and shall exempt them from liability for damages in the event of claims by third parties on grounds of nuclear damage resulting from a nuclear incident which has taken place within the territory of the Russian Federation.

that the exemption clause will not apply once the legislation has entered into force in the Russian Federation, which is in accordance with the provisions of the Vienna Convention and the Joint Protocol on the Application of the Vienna and Paris Conventions, or with the provisions of another relevant international legal instrument to which Germany is a Party. Russia had signed the Vienna Convention in May 1996 but ratified it only in May 2005. The Russians gave a similar undertaking to France and French suppliers in 2000.

The Russian decision to go ahead with the supply of two reactors to India was of immense political significance to India. This was a unique instance – the first of many – of Russia, in complete disregard of the NSG's opposition, assisting India's Civilian Nuclear Programme. In 1998, the NPCIL and Rosatom finalized the Russian VVER design and engineering supervision arrangements for the construction of two reactors at Kudankulam. The issue of the liability of the Russian suppliers in case of an accident was raised by the Russians as India did not have any nuclear liability laws at the time. Drawing upon their own experience with the German suppliers, the Russians insisted on a similar exemption from liability for Russian suppliers.

The supplementary agreement finalized in 1998 gave such an assurance to the Russian suppliers. There were many reasons for this. First, by 1998 the NSG had amended its Guidelines for nuclear supply prohibiting members from engaging in nuclear commerce with India. With the NSG comprising of all nuclear suppliers with the exception of India and China, the NSG had essentially closed all options for India to engage in any nuclear commerce either with regard to nuclear fuel or nuclear facilities and components. The only country able and willing to engage in nuclear commerce at that time was Russia. India was faced with the classic "Hobson's' Choice": either agree to Russian terms or place itself outside of international nuclear commerce with adverse implications for its civilian nuclear future. By then all the traditional suppliers of enriched uranium required to fuel the Tarapur I and II reactors had also withdrawn from the suppliers list to India. Once again, only the Russians were willing to supply fuel for Tarapur in the face of strong opposition from the rest of the NSG community. Therefore, had India refused the Russian condition on nuclear liability – it must be again stressed that the request was in line with all international conventions either then or now – it would have faced not only a total boycott from international suppliers with respect to nuclear facilities and systems but also, more importantly, with respect to fuel for Tarapur I and II. Further, it must be stressed that Indian suppliers to its nuclear facilities were already enjoying such an exemption from nuclear liability. Accordingly, the Government of India decided to accede to the Russian request for exempting Russian suppliers from all nuclear liability. It was a decision taken in India's national interest, taking into account the full range of factors then operating against Indian interests in the nuclear field.

In July 2005 the India-US nuclear deal was announced jointly by the Indian Prime Minister Manmohan Singh and US President George W. Bush during the former's visit to Washington. While the process of allowing for nuclear trade with India by the NSG members was in



progress, during President Putin's visit to India in January 2007, the two governments signed a Memorandum of Intent on Development of Cooperation in the Construction of Additional Nuclear Power Plant Units at Kudankulam site as well as on the construction of Russian Design Nuclear Power Plants at New Sites in the Republic of India. Towards an agreement to implement these intentions, the two governments negotiated and agreed on a text in February 2008 on the eve of the visit to India of Victor Zubkov, Chairman of the Government of the Russian Federation. Although the text of the agreement was finalised in February 2008, the agreement could be signed formally only after the NSG lifted its restrictions on the supply of nuclear materials and technologies to India in September 2008. The Intergovernmental Agreement was signed on December 5, 2008 during the official visit of Dmitry Medvedev, President of Russia, to India by Sergey Kirienko, Head of the Rosatom State Corporation and Anil Kakodkar, Chairman of the Atomic Energy Commission of India.

Even at this time, as late as December 2008, India did not have any domestic nuclear liability legislation in force, although such legislation had been contemplated by the Indian government for almost a decade since 2001. Even an initial draft of a "Civil Liability for Nuclear Damage Bill 2009" was circulated only in late June 2009. As a consequence, when the two governments negotiated the text of the agreement on cooperation in the construction of additional nuclear power plant units at Kudankulam site as well as in the construction of Russian designed nuclear power plants at new sites in February 2008, the issue of civil nuclear liability was once again raised by the Russians. It was decided to follow the earlier practice and exempt the Russian suppliers from all liability.<sup>10</sup>

## Consequences of the Indian Nuclear Liability Legislation

The Indian legislation on civil nuclear liability – The Civil Liability for Nuclear Damage Bill, 2010 – was finally passed by both Houses of Parliament in late August 2010. Questions have been raised now by some in the judiciary and others in the civil activism sector about the validity/reasonableness of granting such liability exemptions to the Russians. It is to be hoped that cooler heads will prevail and that the "imperious immediacy of interest" – as the American sociologist Robert K. Merton characterised instances of someone wanting the intended consequences of an action so much that they purposefully choose to ignore

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<sup>10</sup> Article 13.1 of the Agreement states: "The Indian Side and its authorized organization at any time and at all stages of the construction and operation of the NPP power units to be constructed under the present Agreement shall be the Operator of the power units at Kudankulam site and be fully responsible for any damage caused both within and outside of the territory of the Republic of India caused to any person and property as a result of a nuclear incident occurring at NPP and also in relation with a nuclear incident during the transportation, handling or storage outside the NPPs of nuclear fuel and any contaminated materials or any part of nuclear NPP equipment both within and outside the territory of the Republic of India."

the unintended consequences; in this case the desire of the plaintiffs to block any civilian nuclear future power in India – does not result a situation in which India finds itself at a disadvantage in areas far removed from civilian nuclear power. This needs some elaboration.

It must be admitted at the very outset that the Indian nuclear liability law is completely out of line with all major international conventions and indeed the nuclear liability laws prevailing in all other countries. One of the reasons is the Right of Recourse embedded in the Indian law. *It is not surprising, therefore, to find that more than four years after the NSG granted exemption from its former guidelines to enable nuclear commerce with India, India has not been able to finalise a **single contract with any of the countries** with which it has signed nuclear cooperation agreements for any nuclear facility.* Not only have foreign suppliers been unwilling to supply India with any nuclear facility or system or component, except for fuel supply agreements, more recently, the domestic indigenous suppliers of such facilities, systems and components to the Indian nuclear power industry have also been expressing their reservations about the Indian nuclear liability law, and hence their unwillingness to engage in nuclear supply trade with Indian operators.

This means that both the foreign and domestic suppliers of nuclear equipment, systems and components will be unwilling to assist the Indian nuclear power programme in the future. Without such commerce, the Indian nuclear power facility operator(s) cannot expand their power capacity and, for all practical purposes, the Indian civil nuclear power programme is set to decline in the coming years. In the current environment of free trade and uniform treatment of both domestic and foreign suppliers, it will not be possible to grant exemption from liability to domestic producers only.

Can India revoke the liability exemption given in respect of Kudankulam I and II? These contracts were finalised in the late 1990s. It would be difficult for India to apply laws passed in 2010 to contracts finalised more than a decade earlier. If India were to justify the exercise of such a right now, it would have consequences far beyond the nuclear field. When India tested a nuclear device in 1974 without violating any of its international commitments, the USA amended its Atomic Energy Act to bar nuclear commerce with India, although it had signed a contract to the effect that it would supply Tarapur I and II with spares and fuel for the life of the reactor. India had then objected vehemently about this retrospective application of laws passed subsequent to a legal agreement. India can hardly invoke the same rights now. Additionally, Kudankulam I and II are ready for commissioning now. If Russia were to choose to go to an international court to press its charges against India in respect of any change to the 1998 agreement, it is very likely that the final judgement would be against India. We can also assume that for all practical purposes the 1998 liability exemptions would be upheld by Indian courts as well.

What about Kudankulam III and IV and subsequent Russian power plants that are covered by the 2008 Intergovernmental Agreement?

The contracts for these power plants are yet to be inked. Therefore, a case can be made that NPCIL, a public sector company owned by the Government of India, cannot now enter into a contract which violates or at least does not conform to the sentiments of a law passed by the India Parliament. A case can be made that the 2008 and subsequent India-Russia agreements in respect of nuclear power plants need to be renegotiated. In that case, the Russians can also insist that they too need to revise some sections of such agreements. What would these be, and what would be the impact if the Russians were to insist on their rights as well?

The first would, of course, be a revision in the contract prices. The Russians would insist on an escalation of the costs of the supplies. The size of such increase would depend on the bargaining strength of the two sides. Given that none of the other suppliers of nuclear facilities are ready to engage in nuclear trade with India on nuclear facilities, it is obvious that the Russians have the advantage in any revisions to the cost aspect of the contract.

Second, there are far more serious potential repercussions if the Russians were to carry forward their demand of revisions. Two sections would see an immediate impact: **Sections 6.2 and 6.3** of the Agreement between the Government of the Republic of India and the Government of the Russian Federation on Cooperation in the Use of Atomic Energy for Peaceful Purposes that was signed by the two governments on March 12, 2010 and ratified on September 20, 2010.

**Section 6.2** of this Agreement states that “The Indian Party shall store and reprocess spent nuclear fuel obligated to the Russian Federation under IAEA safeguards in national facilities in the territory of the Republic of India with the aim to store and use reprocessed materials in the Republic of India.” This means a front-end acceptance by Russia of the Indian right to reprocess spent fuel from the Russian reactors and Russian fuel for use in India’s Fast Breeder Reactors. As is well known, the future Indian nuclear power programme, if it is to be successful, will have to rely substantially on the reprocessing of spent fuel from imported reactors. If Russia were to renegotiate this section to deny India the right to reprocess spent fuel, it would result in a big blow to the Indian nuclear power programme. Therefore, this is one way in which Russia could inconvenience India, and that too in a much more substantial manner.

The second direct effect of the re-opening of the Agreement would be on **Section 6.3** of the Intergovernmental Agreement. Section 6.3 states that “The Parties shall conclude a separate agreement for the transfer of technology and facilities for chemical reprocessing of irradiated fuel, isotopic uranium enrichment and heavy water production.” By this, Russia agreed to or expressed its willingness to transfer sensitive nuclear technologies, equipment and components to India. India is especially in need of reprocessing equipment and systems if it is to fully utilise the spent fuel from its future nuclear power programmes. After the NSG gave exemption for nuclear trade with India in September 2008, it passed another amendment to its Guidelines for export of nuclear facilities and equipment in July 2011.

According to the amended Paragraph 6 of the new Guidelines on Special Controls on Sensitive Exports:

Suppliers should exercise a policy of restraint in the transfer of sensitive facilities, equipment, technology and material usable for nuclear weapons or other nuclear explosive devices, especially in cases when a State has on its territory entities that are the object of active NSG Guidelines Part 2 denial notifications from more than one NSG Participating Government.

(a) In the context of this policy, suppliers should not authorise the transfer of enrichment and reprocessing facilities, and equipment and technology therefor, if the recipient does not meet, at least, all of the following criteria:

(i) *is a Party to the Treaty on the Non-Proliferation of Nuclear Weapons* and is in full compliance with its obligations under the Treaty[.]

Thus, since July 2011, NSG members are barred from transferring sensitive nuclear technology, facilities, equipment and parts to India. In fact, Russia had incorporated these same conditions of supply in its domestic laws on export of nuclear facilities, equipment and technologies as early as December 2009 and, of course, now it is obliged to follow the NSG Guidelines. Since the Intergovernmental Agreement was signed in March 2010, Russia could have invoked the “Grandfather” clause of NSG and supplied such sensitive technologies to India as per the March 2010 agreement. However, if India were to invoke a re-opening of the February 2008 Intergovernmental Agreement as a result of its own volition or a judiciary ruling, then the Russians too can invoke their international obligations and repudiate Sections 6.2 and 6.3 of the March 2010 Intergovernmental Agreement. In that case, India would be left alone without any foreign supplier willing to trade with it on these sensitive technologies. Again, the major loser in any re-opening of the India-Russia Intergovernmental Agreements would be India, with far reaching consequences to its future energy security.

Finally there is another matter to be considered. India has been at the receiving end of various technology control regimes. India is not a member of any of the following restrictive regimes: the Nuclear Suppliers Group (NSG), the Wassenaar Arrangement (WA), the Missile Technology Control Regime (MTCR), and the Australia Group (AG). After much effort by India and its supporters, there is a move in these export control regimes to include India as a member. Unfortunately, admittance of new members in all these regimes requires a consensus decision; moreover, there are a few existing members of these regimes who are not sympathetic to the proposed Indian membership. Even at the time of the 2008 NSG amendments, it took the common efforts of the major powers – USA, Russia, UK and France with the exception of China – for the NSG to carry through its amendments to assist India in nuclear commerce. If, however, Russia were to indicate its opposition to India’s membership in these export control regimes, then the chances of India gaining membership

are almost zero. In such a case, India would be the net loser with high technology trade and transfers becoming a major factor in international trade and the growth of economies such as its own and that of China.

Thus one of the unintended consequences of any attempt to ram through an amendment to the India-Russia Intergovernmental Agreements to effect a unilateral change in the liability exemption clauses would be far-reaching damages to India's hopes and aspirations to be a global economic and technological power in future and one with a secure energy security option.